



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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IN THE APPLICATION OF:

LYNN M. ABELL ET AL.

CASE NO.: BB1255

APPLICATION NO.: 09/807,236

GROUP ART UNIT: 1652

FILED: AUGUST 27, 2001

EXAMINER: CHRISTIAN L. FRONDA

FOR: PLANT HISTIDINE BIOSYNTHETIC ENZYMES

**PRELIMINARY AMENDMENT AND  
RESPONSE TO RESTRICTION REQUIREMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is a Preliminary Amendment and Response to the Restriction Requirement set forth in the Office Action mailed August 1, 2003.

A Petition for Extension of Time for two (2) months up to and including November 3, 2003 (Monday), is filed simultaneously herewith.

Please enter the following:

**Amendments to Specification** begin on page 2.

**Amendments to Claims** begin on page 4.

**Remarks** begin on page 5.

**Response to Restriction Requirement** begin on page 6.

Search Notes

Amendments to Claims

Claims 1-15 (cancelled)

- ✓ 16. (new) An isolated polynucleotide comprising:  
(a) a nucleotide sequence encoding a polypeptide having phosphoribosylformimino-5-aminoimidazole carboxamide ribotide isomerase activity, wherein the amino acid sequence of the polypeptide and SEQ ID NO:22 have at least 80% sequence identity, based on the Clustal alignment method with default pairwise alignment parameters of KTUPLE=1, GAP PENALTY=3, WINDOW=5 and DIAGONALS SAVED=5, or  
(b) the entire complement of the nucleotide sequence of (a).
- ✓ 17. (new) The polynucleotide of Claim 16, wherein the amino acid sequence of the polypeptide and SEQ ID NO:22 have at least 85% sequence identity, based on the Clustal alignment method with said default pairwise alignment parameters.
- ✓ 18. (new) The polynucleotide of Claim 16, wherein the amino acid sequence of the polypeptide and SEQ ID NO:22 have at least 90% sequence identity, based on the Clustal alignment method with said default pairwise alignment parameters.
- ✓ 19. (new) The polynucleotide of Claim 16, wherein the amino acid sequence of the polypeptide and SEQ ID NO:22 have at least 95% sequence identity, based on the Clustal alignment method with said default pairwise alignment parameters.
- ✓ 20. (new) The polynucleotide of claim 16, wherein the amino acid sequence of the polypeptide comprises SEQ ID NO:22.
- ✓ 21. (new) The polynucleotide of claim 16, wherein the nucleotide sequence comprises SEQ ID NO:21.
- ✓ 22. (new) A recombinant DNA construct comprising the polynucleotide of claim 16 operably linked to a regulatory sequence.
- ✓ 23. (new) A vector comprising the polynucleotide of claim 16.
- ✓ 24. A method for transforming a cell comprising transforming a cell with the polynucleotide of claim 16.
- ✓ 25. (new) A cell comprising the recombinant DNA construct of claim 22.
26. (new) A method for producing a plant comprising transforming a plant cell with the polynucleotide of claim 16 and regenerating a plant from the transformed plant cell.
27. (new) A plant comprising the recombinant DNA construct of claim 22.
28. (new) A seed comprising the recombinant DNA construct of claim 22.

#2205 DNA  
80%  
C = I =

#2105 DNA  
100% #21  
C = I =

**REMARKS**

Claims 16-28 are now pending, with claim 16 being the sole independent claim.

Claims 1-15 have been canceled without prejudice to or disclaimer of the subject matter recited therein.

Claims 16-28 have been added. Support for the reference to "phosphoribosylformimino-5-aminoimidazole carboxamide ribotide isomerase activity" in claim 16 is found at least in the paragraph at page 3, lines 29-32, and in Example 6, lines 7-22 of page 28 of the specification; in Example 6 the interchangeable term "HisA activity" is used. Support for the sequence identities and the Clustal default parameters recited in claims 16-19 is found at least in the paragraph beginning on line 23 of page 8 and continuing onto page 9 of the specification. Support for the use of the term "recombinant" in claims 22, 25, and 27-28, is found at least in the paragraph at page 13, lines 3-6 of the specification. Support for claims 26-28 are found at least in Examples 4-5, pages 22-26 of the specification. No new matter has been added.

The specification has been amended at two locations to remove reference to the following URL: [www.ncbi.nlm.nih.gov/BLAST/](http://www.ncbi.nlm.nih.gov/BLAST/).

**RESPONSE TO RESTRICTION REQUIREMENT**

In response to the Restriction Requirement in the Office Action mailed August 1, 2003, Applicants hereby elect, without traverse, Group I, claims 1-9, drawn to a polynucleotide and a host cell. Applicants further elect SEQ ID NOs:21 and 22, wherein SEQ ID NO:22 is the amino acid sequence encoded by the continuous open-reading frame corresponding to nucleotides 2-982 of SEQ ID NO:21. Applicants submit that now pending Claims 16-28 are directed to Group I and SEQ ID NOs:21 and 22.

Please charge any fees or credit any overpayment of fees which are required in connection herewith to Deposit Account No. 04-1928 (E. I. du Pont de Nemours and Company).

In view of the foregoing, allowance of the above-referenced application is respectfully requested.

Respectfully submitted,



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Dated: 3 November 2003